Attachment 3B: Operations outline

Application for Works Approval
Auswaste Paper and Cardboard Recycling Facility
14 Exchange Place, East Rockingham

Introduction

The Auswaste Paper and Cardboard Recycling Facility will employ a modern, energy-efficient dry pulping process to recycle paper and cardboard that differs from traditional wet pulping by largely eliminating the need for large volumes of water. An overview of how the dry pulping process works follows:

Auswaste Modern Dry Pulping Process for Paper and Cardboard

1. Collection and Sorting

- **Source**: Post-consumer paper and cardboard are collected from shopping centres, commercial premises, offices, and homes. Deliveries will be made to Auswaste direct from source as well as from Material Recovery Facilities (MRF).
- **Sorting**: Materials are sorted to remove contaminants including plastic, metal staples, binding wire and fasteners, and coated papers.

2. Dry Pulping

- **Shredding**: Cardboard and paper are shredded into smaller, manageable pieces, through a primary shredder and then by secondary shredders.
- **Mechanical Processing**: Instead of using water to break down the fibres, Auswaste dry pulping employs mechanical energy in the form of rotating blades and hammer mills to tear and separate the paper/cardboard into individual fibres.
- **Minimal or No Water**: A small amount of moisture may be added for dust control, but the process avoids the water-intensive soaking typical in traditional pulping.
- **Dust Extraction Systems**: Since dry pulping can generate significant dust, advanced air handling and filtration systems are used.

3. Screening and Cleaning

- **Fibre Screening**: The separated fibres are screened to remove any remaining contaminants like plastics or staples.
- **Air Classification**: Lighter contaminants are separated using airflow.
- **Magnetic Separation**: Any remaining metals are removed using magnets.

4. Optional Drying and Refinement

- If fibres retain moisture (from humid environments or cleaning stages), they may be lightly dried to optimise handling or storage.
- Further mechanical refining may be applied to improve fibre quality for specific end uses.
- Fibres are compressed into sheets ready for baling and export.

5. Baling and Distribution

- The clean, dry recycled paper fibre sheets are compressed into bales.
- These bales are shipped to paper mills or board manufacturers, where they are rehydrated (if needed) and formed into new paper products (e.g., containerboard, tissue, packaging etc).

6. Advantages of Dry Pulping

- **Water Savings**: Significantly reduces or eliminates water use.
- **Energy Efficiency**: Less energy is needed for drying, as water isn't added extensively.
- **Reduced Effluent**: Minimal wastewater treatment is required.
- **Compact Facilities**: Smaller footprint compared to traditional wet pulping mills.

7. Common End Uses

- Recycled cardboard (corrugated board, boxes)
- Paperboard (for packaging)
- Tissue and hygiene products (after further pulping/refining)
- Moulded pulp products (e.g. egg cartons, protective packaging)